

CLAIMS

1. A square bottomed plastic bag stack, comprising:

a plurality of stacked polyethylene film bags, each of said bags comprising
front and rear polyethylene film walls, each of said front and rear walls
5 having first and second side edges, a top edge and a bottom edge;
each of said bags having a pair of longitudinally oriented side gussets attached
to said first and second side edges;
each of said bags having a flat, rectangular bottom formed of lower portions of
said front and rear walls and lower portions of said side gussets;
10 each of said bags being folded inwardly at said side gussets and upwardly from
either of said front wall and said rear wall at a point spaced upwardly
from said bottom edge, to form a flattened bag;
said bags being stacked upon one another and held in registration by
attachment of said bags to one another, thereby forming a registered
15 bag stack;
each of said bags being attached at said top edges of at least one of said front
and rear walls to at least one header strip; and
whereby, when said bags are pulled from said bag stack and opened, they will
stand erect upon said flat bottom.

2. A square bottomed plastic bag stack, comprising:

a plurality of stacked polyethylene film bags, each of said bags comprising
front and rear polyethylene film walls, each of said front and rear walls
having first and second side edges, a top edge and a bottom edge;
each of said bags having a pair of longitudinally oriented side gussets attached
5 to said first and second side edges;
each of said bags having a flat, rectangular bottom formed of lower portions of
said front and rear walls and lower portions of said side gussets;
lower corners of said each side gusset being folded outwardly and together to
form downward pointing triangular panels;
10 said triangular panels being folded inwardly from said side gussets;
lower portions of said front and rear walls being folded inwardly and sealed
together to form the bag bottom;
said bag bottom being sealed to said side gussets adjacent upper edges of said
triangular panels;
15 said triangular panels being sealed to an upper surface of said bag bottom;
each of said bags being folded inwardly at said side gussets and upwardly from
either of said front wall and said rear wall at a point spaced upwardly
from said bottom edge, to form a flattened bag;
said bags being stacked upon one another and held in registration by
20 attachment of said bags to one another, thereby forming a registered
bag stack; and
whereby, when said bags are pulled from said bag stack and opened, they will
stand erect upon said flat bottom.

3. A square bottomed header bag stack, comprising:

a plurality of stacked polyethylene film bags, each of said bags comprising
front and rear polyethylene film walls, each of said front and rear walls

5 having first and second side edges, a top edge and a bottom edge;

each of said bags having a pair of longitudinally oriented side gussets attached
to said first and second side edges;

each of said bags having a crease line, said crease line being parallel to said
bottom edges and spaced upwardly from said bottom edges by

10 approximately one half of a width of one of said side gussets;

each of said bags being slit from said bottom edges of said walls to said crease
line at each intersection of said front and rear walls and said side
gussets;

each of said bags having a flat, rectangular bottom formed of lower portions of
15 said front and rear walls and lower portions of said side gussets;

lower corners of said each side gusset being folded outwardly to said crease
line and together to form downward pointing triangular panels;

said triangular panels being folded inwardly from said side gussets at said
crease line;

20 lower portions of said front and rear walls being folded inwardly from said
crease line and sealed together to form a bag bottom;

said bag bottom being sealed to said side gussets adjacent said crease line and
upper edges of said triangular panels;

said triangular panels being sealed to an upper surface of said bag bottom;
each of said bags being folded inwardly at said side gussets and upwardly from
either of said front wall and said rear wall at said crease line, to form a
flattened bag;

5 said bags being stacked upon one another and held in registration by
attachment of said bags to one another, thereby forming a registered
bag stack; and

whereby, when said bags are pulled from said bag stack and opened, they will
stand erect upon said flat bottom.

10

4. The square bottomed plastic bag stack as described in Claim 2 or Claim 3, wherein
each of said bags is attached at said top edges of at least one of said front and rear
walls to at least one header strip.

15 5. The square bottomed plastic bag stack as described in Claim 1 wherein said header
strip is attached at said top edges of at least one of said front and rear walls by at least
one perforation.

20 6. The square bottomed plastic bag stack as described in Claim 4 wherein said header
strip is attached at said top edges of at least one of said front and rear walls by at least
one perforation.

7. The square bottomed plastic bag stack as described in Claim 1 wherein said header strip has at least one hole for suspending said bags from a dispensing rack.

8. The square bottomed plastic bag stack as described in Claim 4 wherein said header strip has at least one hole for suspending said bags from a dispensing rack.

9. The square bottomed plastic bag stack as described in Claim 7 wherein said header strip includes at least one weakened area, said weakened area extending from said hole to an upper edge of said header strip.

10. The square bottomed plastic bag stack as described in Claim 8 wherein said header strip includes at least one weakened area, said weakened area extending from said hole to an upper edge of said header strip.

11. The square bottomed plastic bag stack as described in Claim 1, Claim 2 or Claim 3, further comprising:

means for attaching an upper portion of said rear wall of a leading one of said bags to an upper portion of said front wall of a subsequent bag in said bag stack; and

whereby, when said leading bag is pulled from said bag stack, said subsequent bag will cause said leading bag to open.

12. The square bottomed plastic bag stack as described in Claim 11, wherein said means for attaching an upper portion of said rear wall of a leading one of said bags to an upper portion of said front wall of a subsequent bag in said bag stack is selected from the group comprising:

5 glue spotting, corona treatment, pressure and corona treatment with pressure.

13. The square bottomed plastic bag stack as described in Claim 1, wherein said header strips are attached to one another with at least one hot pin extending through said headers to maintain the bags in registration.

10

14. The square bottomed plastic bag stack as described in Claim 4, wherein said header strips are attached to one another with at least one hot pin extending through said headers to maintain the bags in registration.

15 15. The square bottomed plastic bag stack as described in Claim 1, wherein said header strips are attached to one another with at least one cold stake extending through said headers to maintain the bags in registration.

16. The square bottomed plastic bag stack as described in Claim 4, wherein said header strips are attached to one another with at least one cold stake extending through said headers to maintain the bags in registration.

20

17. The square bottomed plastic bag stack as described in Claim 1, further comprising at least one handle opening, said handle opening extending through said front and rear walls in an upper portion of each of said bags.
- 5 18. The square bottomed plastic bag stack as described in Claim 4, further comprising at least one handle opening, said handle opening extending through said front and rear walls in an upper portion of each of said bags.
19. The square bottomed plastic bag stack as described in Claim 1, Claim 2 or Claim 3,
10 wherein said bags are formed of a porous material.
20. The square bottomed plastic bag stack as described in Claim 1, Claim 2 or Claim 3, wherein said bags are formed of material having microperforations penetrating at least a portion of any of said bag walls and side gussets.
- 15
21. The square bottomed plastic bag stack as described in Claim 1, Claim 2 or Claim 3, wherein said bags have a plurality of ventilating openings penetrating at least a portion of any of said bag walls and side gussets.
- 20 22. The square bottomed plastic bag stack as described in Claim 2 or Claim 3, wherein said bags further comprise:
- an upper seal, said upper seal joining said front wall to said rear wall at said top edges of said bag walls and joining top edges of said side gussets; and

a U-shaped cutout, said cutout commencing at a first point on said upper seal spaced from said first side edge and extending downwardly toward said bottom edges, across an upper portion of said bag walls and upwardly to a second point on said upper seal spaced from said second side edge, thereby forming an open bag mouth and a pair of bag handles terminating at said upper seal.

5

23. The square bottomed plastic bag stack as described in Claim 22, wherein said bags are attached to one another with at least one hot pin extending through said bag handles to maintain said bags in registration.

10

24. The square bottomed plastic bag stack as described in Claim 22, wherein said bags are attached to one another with at least one hot pin extending through said upper portion of said bag walls to maintain said bags in registration.

15

25. The square bottomed plastic bag stack as described in Claim 22, wherein said bags are attached to one another with at least one cold stake extending through said bag handles to maintain said bags in registration.

20 26. The square bottomed plastic bag stack as described in Claim 22, wherein said bags are attached to one another with at least one cold stake extending through said upper portion of said bag walls to maintain said bags in registration.

27. The square bottomed plastic bag stack as described in Claim 22, wherein said bags further comprise a pair of apertures, each of said apertures penetrating said bag handles at a point spaced downwardly from said upper seal, said apertures permitting said bag stack to be suspended from a dispensing rack.

5

28. The square bottomed plastic bag stack as described in Claim 22, further comprising:
a central tab, said central tab extending upwardly from at least one of said front wall and said rear wall at said open mouth; and
said central tab having an opening therethrough for suspending said bag stack.

10

29. The square bottomed plastic bag stack as described in Claim 28, wherein said central tab is attached to at least one of said front wall and said rear wall at said open mouth at a weakened area, said weakened area permitting said central tab to be torn from said open mouth of said bag as said bag is removed from a dispensing rack.

15

30. The square bottomed plastic bag stack as described in Claim 28, wherein said central tab includes a weakened area, said weakened area extending from said opening to an upper edge of said central tab, said weakened area parting under pressure as said bag is removed from a dispensing rack.

20

31. The square bottomed plastic bag stack as described in Claim 22, further comprising at least one header strip, said header strip being attached above said upper seal.

32. The square bottomed plastic bag stack as described in Claim 31, wherein said header strip is attached above said upper seal with at least one perforation.

33. The square bottomed plastic bag stack as described in Claim 31, wherein said header strip has at least one hole therethrough for suspending said bag stack.

34. The square bottomed plastic bag stack as described in Claim 33, wherein said header strip includes a weakened area, said weakened area extending from said hole to an upper edge of said header strip, said weakened area parting as said bag is removed from a dispensing rack.

35. A method of making a square bottomed plastic bag stack, comprising the steps of:
extruding a tube of polyethylene material;
forming side gussets in said tube and flattening same;
cutting said flattened tube perpendicular to said side gussets to a first predetermined length, thereby forming a bag blank, said bag blank having front and rear walls, front and rear top edges, front and rear bottom edges, first and second side edges;
slitting said bag blank at intersections of said side gussets and said front and rear walls from said front and rear bottom edges upwardly for a first predetermined distance;
folding lower corners of said each side gusset outwardly and together to form downward pointing triangular panels;

folding said triangular panels inwardly from said side gussets;
folding lower portions of said front and rear walls inwardly;
sealing said front and rear wall together adjacent said front and rear bottom
edges to form a bag bottom;

5 sealing said bag bottom to said side gussets adjacent upper edges of said
triangular panels;

sealing said triangular panels to an upper surface of said bag bottom;
folding each of said bags inwardly at said side gussets and upwardly from
either of said front wall and said rear wall at a point spaced upwardly
10 from said bottom edge, to form a flattened bag; and

stacking a plurality of said bag blanks in registration to form a bag stack.

36. A method of making a square bottomed plastic bag stack, comprising the steps of:

extruding a tube of polyethylene material;

15 forming side gussets in said tube and flattening same;

cutting said flattened tube perpendicular to said side gussets to a first
predetermined length, thereby forming a bag blank, said bag blank
having front and rear walls, front and rear top edges, front and rear
bottom edges, first and second side edges;

20 forming a crease line in each of said bag blanks, said crease line being parallel
to said bottom edges and spaced upwardly from said bottom edges by
approximately one half of a width of one of said side gussets;

slitting each of said bag blanks from said bottom edges of said walls to said
crease line at each intersection of said front and rear walls and said side
gussets;

folding lower corners of said each side gusset outwardly to said crease line and
together to form downward pointing triangular panels;

folding said triangular panels inwardly from said side gussets at said crease
line;

folding lower portions of said front and rear walls inwardly from said crease
line;

sealing said front and rear wall together adjacent said front and rear bottom
edges to form a bag bottom;

sealing said bag bottom to said side gussets adjacent said crease line and upper
edges of said triangular panels;

sealing said triangular panels to an upper surface of said bag bottom;

folding each of said bag blanks inwardly at said side gussets and upwardly
from either of said front wall and said rear wall at said crease line, to
form a flattened bag; and

stacking a plurality of said bag blanks in registration to form a bag stack.

37. The method of making a square bottomed plastic bag stack, as described in Claim 35
or Claim 36, further comprising the steps of:

prior to stacking said bag blanks, perforating said bag blank at a perforation
line, said perforation line disposed at a second predetermined distance
from said front and rear top edges;
cutting said bag stack above said perforation line to form a plurality of bag
5 stack header strips;
attaching said header strips to one another to maintain said bags in registration;
and
whereby, when said bags are pulled from said bag stack and opened, they will
stand erect upon said flat bottom.

10

38. The method of making a square bottomed plastic bag stack, as described in Claim 37,
further comprising the step of cutting at least one hole in said header strips for
suspending said bags from a dispensing rack.

15 39. The method of making a square bottomed plastic bag stack, as described in Claim 38,
further comprising the step of forming at least one weakened area, said weakened area
extending from said hole to an upper edge of said header strip.

40. The method of making a square bottomed plastic bag stack, as described in Claim 35
20 or Claim 36, further comprising the step of:

attaching an upper portion of said rear wall of a leading one of said bags to an
upper portion of said front wall of a subsequent bag in said bag stack;
and

whereby, when said leading bag is pulled from said bag stack, said subsequent bag will cause said leading bag to open.

5 41. The method of making a square bottomed plastic bag stack, as described in Claim 40 wherein a means for attaching an upper portion of said rear wall of a leading one of said bags to an upper portion of said front wall of a subsequent bag in said bag stack is selected from the group comprising:

glue spotting, corona treatment, pressure and corona treatment with pressure.

10 42. The method of making a square bottomed plastic bag stack, as described in Claim 37, further comprising the step of driving at least one hot pin through said headers to maintain said bags in registration.

15 43. The method of making a square bottomed plastic bag stack, as described in Claim 37, further comprising the step of driving at least one cold stake through said headers to maintain said bags in registration.

20 44. The method of making a square bottomed plastic bag stack, as described in Claim 37, further comprising the step of cutting at least one handle opening in said bag stack, said handle opening extending through said front and rear walls in an upper portion of each of said bags.

45. The method of making a square bottomed plastic bag stack, as described in Claim 35 or Claim 36, further comprising the step of forming said bags of a porous material.

46. The method of making a square bottomed plastic bag stack, as described in Claim 35
5 or Claim 36, further comprising the step of forming microperforations penetrating at least a portion of any of said bag walls and side gussets.

47. The method of making a square bottomed plastic bag stack, as described in Claim 35
10 or Claim 36, further comprising the step of forming a plurality of ventilating opening penetrating at least a portion of any of said bag walls and side gussets.

48. The method of making a square bottomed plastic bag stack, as described in Claim 35 or Claim 36, further comprising the steps:

15 prior to stacking said bag blanks, joining said front wall to said rear wall at said top edges of said bag walls and joining top edges of said side gussets, thereby forming an upper seal; and
forming a U-shaped cutout, said cutout commencing at a first point on said upper seal spaced from said first side edge and extending downwardly toward said bottom edges, across an upper portion of said bag walls and
20 upwardly to a second point on said upper seal spaced from said second side edge, thereby forming an open bag mouth and a pair of bag handles terminating at said upper seal.

49. The method of making a square bottomed plastic bag stack, as described in Claim 48, further comprising the step of driving at least one hot pin through said upper portion of said bag walls to maintain said bags in registration.

5 50. The method of making a square bottomed plastic bag stack, as described in Claim 48, further comprising the step of driving at least one hot pin through said bag handles to maintain said bags in registration.

51. The method of making a square bottomed plastic bag stack, as described in Claim 48, further comprising the step of driving at least one cold stake through said upper
10 portion of said bag walls to maintain said bags in registration.

52. The method of making a square bottomed plastic bag stack, as described in Claim 48, further comprising the step of driving at least one cold stake through said bag handles
15 to maintain said bags in registration.

53. The method of making a square bottomed plastic bag stack, as described in Claim 48, further comprising the step of cutting a pair of apertures, each of said apertures penetrating said bag handles at a point spaced downwardly from said upper seal, said
20 apertures permitting said bag stack to be suspended from a dispensing rack.

54. The method of making a square bottomed plastic bag stack, as described in Claim 48, further comprising the step of forming a central tab, said central tab extending

upwardly from at least one of said front wall and said rear wall at said open mouth,
said central tab having an opening therethrough for suspending said bag stack.

55. The method of making a square bottomed plastic bag stack, as described in Claim 54,
5 further comprising the step of forming a weakened area, said weakened area attaching
said central tab to at least one of said front wall and said rear wall at said open mouth,
said weakened area permitting said central tab to be torn from said open mouth of said
bag as said bag is removed from a dispensing rack.

10 56. The method of making a square bottomed plastic bag stack, as described in Claim 54,
further comprising the step of forming said central tab with a weakened area, said
weakened area extending from said opening to an upper edge of said central tab, said
weakened area parting under pressure as said bag is removed from a dispensing rack.

15 57. The method of making a square bottomed plastic bag stack, as described in Claim 48,
further comprising the step of attaching a header strip above said upper seal.

58. The method of making a square bottomed plastic bag stack, as described in Claim 57,
further comprising the step of attaching said header strip above said upper seal with at
20 least one perforation.

59. The method of making a square bottomed plastic bag stack, as described in Claim 57, further comprising the step of cutting at least one hole through said header strip for suspending said bag stack.
- 5 60. The method of making a square bottomed plastic bag stack, as described in Claim 59, further comprising the step of forming a weakened area, said weakened area extending from said opening to an upper edge of said header strip, said weakened area parting as said bag is removed from a dispensing rack.